

Chapter 7

Plan Implementation Strategy

The SWRP²² is a comprehensive planning document which provides Santa Clara Basin agencies (SCVURPPP member agencies) with a prioritized list of potential stormwater runoff and dry weather runoff capture and treatment projects to achieve multiple benefits in the region, including augmenting water supply and improving and protecting water quality. To effectively implement the SWRP, an adaptive management and funding strategy is needed, informed by performance tracking and metrics. The following sections describe the benefits of and resources for SWRP implementation, implementation strategy components and timeline, adaptive management approach, implementation performance measures, and proposed data management methods.

7.1 Overall Benefits of Plan Implementation

Implementation of the SWRP will assist SCVURPPP agencies in meeting the requirements of the San Francisco Bay Region's Municipal Regional Stormwater Permit (MRP), including TMDL and green stormwater infrastructure requirements within the permit, and help achieve the goals outlined in the SCVWD's One Water Plan and the SWRP Guidelines. These goals include: reducing pollutants in creeks, rivers and San Francisco Bay; augmenting water supply and recharging groundwater basins where feasible; reducing local flooding; enhancing natural habitats; reducing erosion potential in waterways resulting from hydromodification; and providing climate resiliency. In addition, projects will provide educational opportunities to the general public and community groups about stormwater capture, treatment, and use as a resource.

7.2 Resources for Plan and Project Implementation

Resources such as funding for project design, construction, and operation and maintenance, intra-agency and inter-agency coordination, future planning efforts for adaptive management, and continued support from the public are necessary components of successful implementation. Green Stormwater Infrastructure (GSI) Plans required by the MRP will be the primary mechanism for municipal agencies to develop implementation plans, consistent with local and regional priorities. Projects may also be implemented as part of the SCVWD's *One Water Plan* and *Water Supply Master Plan*, as well as SCVWD flood control projects that may have GSI components.

7.2.1 Resources for Plan Adoption and Adaptive Management

Preparation of this Santa Clara Basin SWRP was funded by a Proposition 1 Planning Grant and in-kind matching contributions from SCVURPPP and the SCVWD (lead agency for the grant and

²² Refer to the List of Abbreviations on page v for all abbreviations.

member of SCVURPPP). Much of the in-kind match came from SCVURPPP's efforts to develop technical guidance and provide training and support to its municipal agencies with development of their GSI Plans (i.e., SCVURPPP's GSI Work Plans for FYs 15-16, 16-17, and 17-18, which were funded by the SCVURPPP member agencies as part of SCVURPPP's approved budgets for those fiscal years).

It is anticipated that SCVURPPP will facilitate future SWRP updates and ongoing adaptive management, coordinated with assistance with GSI Plan implementation and permit compliance. The SCVURPPP member agencies meet regularly to discuss stormwater management, water quality concerns, and other regulatory matters within the SWRP area. These regular meetings may include a SWRP meeting agenda item as needed to discuss potential updates to the SWRP and how to prepare and fund the updates in future years' budgets.

7.2.2 Resources for Project Implementation

Funding for implementation of projects included in the Santa Clara Basin SWRP will be obtained by the municipal agency, partnership of agencies, or other stakeholder project sponsors capable of implementing the identified projects. Projects identified in the SWRP may be implemented as funding opportunities become available and funds are awarded or allocated to the project.

As required by the MRP, SCVURPPP municipal agencies are currently developing GSI Plans which must be submitted to the Regional Water Board by September 2019. Each plan will provide a local level analysis of the GSI goals and priorities of each agency, and incorporate the projects identified and prioritized in the SWRP. The GSI Plans will also include an analysis of local funding options for implementation of priority projects. Funding needs include project design, construction, and operation and maintenance (O&M), as well as staff resources for coordination, public outreach, and tracking and reporting of implemented projects. Potential funding options for multi-jurisdictional regional projects will also be evaluated and may take longer to develop due to the interagency coordination needed to identify and administer the funding source.

Sources of project funding may include grants, bond measures, benefit assessment and financing districts, local capital improvement program (CIP) budgets, local revenue streams such as utility rates or fees, and/or other funding mechanisms. Current potential sources of grant funding include:

- Round 2 of Proposition 1 Stormwater implementation grant funding (solicitation expected in Spring 2019);
- Round 1 of Proposition 1 IRWM implementation grant funding (solicitation by Bay Area IRWM expected in late 2018) and Round 2 (2020);
- Coastal Conservancy Proposition 1 grants (typically offered three times per year);

- USEPA San Francisco Bay Water Quality Improvement Fund grants;
- San Francisco Bay Restoration Authority Measure AA grants; and
- Proposition 68, passed by the voters on June 5, 2018, which authorizes \$4.1 billion in bond funds for state and local parks, and environmental protection and restoration, water infrastructure, and flood protection projects, and promotes the inclusion of stormwater capture projects.

Other approaches include leveraging private development to construct GSI in the public right-of-way, via conditions of approval, development impact fees, and/or alternative compliance options; public/private partnerships; and cooperative agreements with Caltrans to fund regional projects that include Caltrans drainage areas. Beginning in 2017, the Caltrans District 4 Stormwater Program has been using funding from the State Highway Operations Protection Program (SHOPP) for stormwater treatment projects in prioritized transportation corridors within the nine Bay Area counties. Projects qualifying for SHOPP funds include projects developed in partnership with municipal agencies to implement stormwater treatment measures that treat both Caltrans right-of-way and local watersheds.

7.3 Implementation Strategy

7.3.1 Incorporation of the SWRP into the Bay Area IRWMP

As described in Section 2, the Santa Clara Basin SWRP was prepared in collaboration with the Bay Area Integrated Regional Water Management Plan (IRWMP) Coordinating Committee. The SWRP planning area aligns with the Bay Area IRWMP South Subregion.

The completed SWRP will be submitted to the Coordinating Committee and incorporated into the IRWMP as an addendum. The following process will be used for submittal and incorporation of the SWRP:

- The completed SWRP will be submitted electronically to the Coordinating Committee.
- The Coordinating Committee will approve the SWRP as an addendum to the IRWMP, and post it on the IRWMP website (www.bayareairwmp.org).
- Any SWRP projects that wish to be considered for IRWMP implementation grant funding in the South Subregion will be submitted to the Coordinating Committee via the IRWMP website, per the existing process for scoring and adding new projects to the IRWMP.

This process was discussed and agreed to by the Bay Area IRWMP Coordinating Committee at its meeting on February 29, 2016.

7.3.2 Actions, Projects and Studies for SWRP Implementation

As described earlier in this document, the GSI Plans will be the primary mechanism for municipal agencies to implement SWRP projects, consistent with local and regional priorities and regulatory requirements. In addition, projects may be implemented as part of the SCVWD's

One Water Plan and *Water Supply Master Plan*. Other stakeholders that submitted projects to the SWRP, including the Santa Clara Valley Transportation Authority and the Santa Clara County Open Space Authority, will conduct their own studies and decision-making processes to implement their projects, as appropriate.

The SWRP identified a short list of high priority project concepts and additional project opportunities for which concepts can be developed prior to seeking funding. Identified project opportunities and project concepts are described in Chapter 6. As funding becomes available, sponsoring entities will take the necessary actions to design and construct the projects. While these project opportunities can provide multiple benefits that support their implementation, stormwater management, permit compliance needs and local and regional priorities of the SCVURPPP agencies will likely drive decision making analyses for funding.

To assist municipal agencies with project implementation, SCVURPPP has developed the following guidance documents²³:

- *Green Stormwater Infrastructure Handbook* containing design guidelines, typical details, and specifications for planning and designing GSI projects.
- Memorandum entitled *Green Stormwater Infrastructure Funding Options*, providing guidance on possible options for funding mechanisms to design, construct, and maintain prioritized GSI projects.
- Memorandum entitled *Mechanisms for Green Infrastructure Plan Implementation* that describes ordinances, policies, procedures, tools, and other methods to guide implementation of municipal GSI Plans.
- Document entitled *Model Green Infrastructure Language for Incorporation into Municipal Plans*, providing model language for updating existing municipal plans to include support of GSI approaches and projects.

In addition to GSI planning, SCVURPPP is conducting a Reasonable Assurance Analysis (RAA) to demonstrate that pollutant load reductions for PCBs and mercury specified in the MRP, consistent with the San Francisco Bay PCBs and mercury TMDLs, will be achieved through the implementation of GSI projects. The hydrologic model developed for quantification of benefits for the SWRP will be the basis of the RAA model. The SWRP informed the selection of projects for the RAA and in turn, the results of the RAA will provide additional information on project effectiveness which can be integrated into the SWRP in future updates.

Concurrently with SWRP efforts, the SCVWD is developing its *One Water Plan*, a long term integrated water resource management plan addressing sustainable water supply, water quality improvement, flood protection, and stream stewardship in Santa Clara County watersheds. Two of the five One Water Plan goals are directly related to the SWRP and will be

²³ These documents are available on the SWRP Resources Library web page:
http://scvurppp.org/scvurppp_2018/swrp/resource-library/

supported by the multi-benefit stormwater capture projects identified and prioritized in the SWRP. These goals include:

- “Valued and Respected Rain: Manage rainwater to improve flood protection, water supply, and ecosystem health”; and
- “Healthful and Reliable Water: Enhance the quantity and quality of water to support beneficial uses.”

The recommended actions and projects in the final *One Water Plan* will also be incorporated into updates of the SWRP as appropriate.

7.3.3 Entities Responsible for Project Implementation

The primary entity responsible for project implementation is listed with each of the project opportunities included in the SWRP list of potential projects. However, if other jurisdictions or agencies are located within a project drainage area, partnerships may be developed to support regional project funding and implementation. SCVURPPP will continue to provide assistance with SWRP implementation in a technical advisory capacity.

7.3.4 Community Participation Strategy for SWRP Implementation

The inclusive stakeholder participation strategy that supported development of the SWRP, described in Chapter 8, will provide a strong basis for continued community participation during SWRP implementation. The SWRP will be made available to the public on the SWMP and IRWMP websites, and a mechanism will be provided for community members to submit new project ideas as they are developed. It is also anticipated that outreach and solicitation for new stakeholder projects would occur routinely (at least annually) and coordinated with SWRP updates.

Community participation will also occur during individual project implementation, which will focus on the community where the project is located. Each project will include its own public participation process to address the concerns of affected residents and businesses and adjust project designs as appropriate and feasible. SCVURPPP has developed fact sheets and other web-based tools to educate the public about GSI, which may be useful for this purpose. These can be found on the SWRP webpage and SCVURPPP Watershed Watch website (see Section 8.4).

SWRP projects will provide an ideal opportunity to showcase the many benefits of GSI, particularly regarding stormwater capture, reduced local flooding, urban greening, and other features and functionality that will serve the community. With proper educational tools such as interpretive signage, the public can also gain a better understanding of how the project provides opportunities to capture, treat, and use stormwater as a resource. As a result, constructed projects will provide a mechanism for community participation and education that will help garner support for additional projects implemented over time.

7.3.5 Procedures to Track SWRP and Project Implementation

As discussed under Section 7.4, Adaptive Management, the SWRP will be updated over time by SCVURPPP, in coordination with updates to the IRWMP and at intervals that are aligned with stormwater regulatory requirements, and grant program solicitations. The status of project implementation will be tracked by the lead entity for each project, and compiled into a progress report that will be incorporated into the SWRP when it is updated. SWRP updates will also discuss the progress of any actions or studies conducted that help facilitate SWRP implementation.

SCVURPPP municipalities have specific requirements under the MRP to develop a process for tracking, mapping, and reporting implementation of GSI projects within their jurisdictions. The requirements also include tracking needed to provide reasonable assurance that MRP pollutant load reduction requirements for the PCBs and mercury TMDLs are being addressed. Tracking metrics include the land area draining to stormwater treatment measures, the amounts of connected and disconnected impervious area on both public and private parcels, average volumes of stormwater infiltrated or otherwise managed, and pollutant loads reduced.

To date, SCVURPPP municipalities have individually tracked completed GSI projects and regulated projects with stormwater treatment measures within their jurisdictions using spreadsheet and GIS formats, and provided the data to SCVURPPP for compilation in countywide reports. SCVURPPP has developed a cloud-based tracking system (“GSI Database”) to obtain, store, and access LID/GSI project data and other geospatial data at a county-wide level. The system includes applications to calculate pollutant load reductions associated with these projects. The system also allows projects, control measures, and load reductions to be visualized spatially on a web-based platform.

Once projects are constructed, the sponsoring agency will have responsibility for inspection and operation and maintenance (O&M) of project facilities, or will enter into agreement(s) to assign responsibility to another party. SCVURPPP municipalities currently have procedures in place to track ongoing inspections and O&M of stormwater treatment facilities by responsible parties, as required by the MRP. These procedures will also be applied to constructed SWRP projects. Guidance on maintenance of GSI facilities is provided in SCVURPPP’s GSI Handbook and C.3 Stormwater Handbook.

7.3.6 Timelines for Active or Planned Projects

Municipal GSI Plans will provide general time schedules for implementation of GSI projects, including some of the projects in the SWRP, through 2040. Municipalities will determine specific project implementation schedules as funding becomes available.

As funding sources are identified, project concepts will be incorporated into the responsible municipality’s CIP for detailed design and construction. Project management documents for these CIP projects will identify project-specific implementation schedules. Project sponsors will

be responsible for tracking the implementation status of their projects and documenting performance measures for completed projects as described in Section 7.5.

7.3.7 Strategy and Timeline for Obtaining Necessary Federal, State, and Local Permits

As funding is identified for projects, the initial planning phase for project implementation will include a task to identify permits required from federal, State, and local resource and regulatory agencies. All necessary permits and CEQA clearance will be obtained by project proponents as needed for project implementation. Permits that may be required for project implementation include:

- Clean Water Act (CWA) Section 404 (and State Supplemental Dredge or Fill Guidelines) Permit (for discharges of dredged or fill material into waters of the State);
- CWA Section 401 Water Quality Certification (from California Regional Water Quality Control Board, San Francisco Bay Region);
- Fish and Game Code Section 1602 Lake and Streambed Alteration Agreement (from California Department of Fish and Wildlife);
- NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (from the State Water Resources Control Board); and
- Encroachment permits from local agencies or utilities.

Permit requirements can have a significant impact on the schedule and cost of a project and will vary significantly depending on the location and site conditions of the project. Permits will be included in the individual project schedule and budget during the planning phase. In addition, any easement or right-of-way acquisitions that would further delay the process of project implementation would be identified at this stage.

7.4 Adaptive Management – Maintaining a Living Document

7.4.1 Timeline for SWRP Review and Update

The Santa Clara Basin SWRP will be maintained as a living document and updated to document completion of projects and lessons learned and incorporate additional multi-benefit projects that may be identified after completion of the SWRP. This is anticipated to occur approximately once every five years, coinciding with the five-year cycle for reissuance of the MRP and based on available funding.

SCVURPPP will be responsible for maintaining and updating the SWRP, in coordination with the Santa Clara Valley Water District's updates to its *One Water Plan* and with updates to the Bay Area IRWMP, at intervals that are aligned with stormwater regulatory requirements and grant program solicitations.

The current SWRP will be maintained on the dedicated SWRP website²⁴ and linked to the SCVURPPP and IRWMP websites, along with clear procedures for updating or adding future projects. A form will be provided on the website for agencies and community members to submit project ideas. It is also anticipated that outreach and solicitation for new stakeholder projects would occur routinely with SWRP updates.

In addition to updating the project list with new and completed projects, the SWRP may also be revised to reflect changing conditions in local watersheds and knowledge gained through stormwater program implementation, including programs to address TMDL requirements. Ongoing adaptations to the SWRP may include and/or be influenced by:

- Re-characterization of watershed conditions, pollutant sources, and water quality priorities;
- Project effectiveness assessments;
- Updated metrics-based, quantitative analyses; and
- Modified stormwater permit requirements.

7.4.2 Procedure for SWRP Update

It is envisioned that the SWRP update procedure will have the following steps:

- Approximately eight months prior to the start of the fiscal year in which the SWRP will be updated, the SCVURPPP Program Manager will develop a scope of work and budget for the update, as part of annual SCVURPPP budgeting process. Once the budget is approved by the SCVURPPP Management Committee, the SWRP update task will become part of the Program Manager's Work Plan for that fiscal year.
- SCVURPPP will collect information from SCVURPPP agencies and stakeholders on completed projects and any monitoring data or other information collected on project effectiveness.
- SCVURPPP staff will review any new projects proposed by SCVURPPP agencies or submitted by stakeholders via the SWRP website, determine if the projects are not currently represented on the SWRP project list, and if not, perform the benefits metrics analysis to determine the project scoring and position on the prioritized project list.
- SCVURPPP will determine additional updates to the SWRP that may be required, such as any changes in the watershed conditions or regulatory requirements, status of other related plans such as the *One Water Plan* and the IRWMP, and updates related to the contents of local GSI Plans or the Santa Clara Basin RAA.
- The SWRP updates will be prepared and distributed to the Management Committee and other stakeholders for review.

²⁴ http://scvurppp.org/scvurppp_2018/swrp/

- The updated SWRP will be posted on SWRP website, and notification provided to the Management Committee and stakeholders, including State and Regional Water Board staff.

7.5 Implementation Performance Measures

The project concepts developed and the hydrologic modeling analyses performed for the SWRP (Sections 5 and 6) provide estimated expected outcomes, or benefits, of priority stormwater capture projects. These outcomes include potential water supply augmentation and water quality benefits, in addition to the other benefit categories of flood management, community, and environmental benefits. For example, the SWRP provides quantitative estimates for each of the high priority potential projects of the volume of water captured and the load of a pollutant that may be removed from the receiving surface water while not negatively impacting groundwater resources. In addition, for all project opportunities identified in the SWRP, the metrics applied for project ranking provide the relative levels of benefits for each category.

Extensive surface water and groundwater monitoring is currently being conducted throughout the planning region, and this ongoing monitoring will continue. The significant monitoring efforts currently being conducted are intended to assess the quantity and quality of groundwater used for water supply purposes, receiving water quality and stream health, stormwater quality, and compliance with TMDLs and water quality standards. Ongoing monitoring results will be analyzed as needed and where feasible to evaluate how project performance compares with the expected outcomes of the SWRP. If needed, SWRP implementation may be adjusted based on performance data collected, such that project types with monitoring data showing effective performance are prioritized. The need for additional project specific performance evaluation monitoring will be determined during the project design phase. Grant funded projects may be expected to implement performance monitoring if required by the grant agreement.

Implementation performance will also be measured in terms of how completed projects help SCVURPPP agencies meet PCBs and mercury load reduction performance criteria specified in the MRP. The approach and timelines for meeting these performance criteria will be described in SCVURPPP's RAA and in municipal GSI Plans. Methods for tracking project completion and associated load reductions are described in the following subsection.

7.6 Information and Data Management Methods

As discussed earlier in this section, SCVURPPP municipalities have specific requirements under the MRP to track, map, and report implementation of GSI projects, both private and public, within their jurisdictions. The requirements also include tracking needed to provide reasonable assurance that wasteload allocations for the PCBs and mercury TMDLs are being met. It is envisioned that completed stormwater capture projects identified and prioritized in the SWRP would also be tracked using the same methodology.

Currently, GSI projects are tracked at both the municipality and countywide program (SCVURPPP) level. Municipalities store the information submitted by development project proponents in their own internal data management systems, and use this information to track the progress of each project through final construction, as well as O&M inspections of projects post-construction. Data management systems range from basic electronic file storage systems (e.g., Excel spreadsheets) to more complex database systems. Once a year, SCVURPPP staff requests information on planned or completed projects from its municipal members in order to calculate PCB and mercury load reductions and report to the San Francisco Bay Regional Water Board. SCVURPPP staff also creates GIS files for each completed project that include delineation of parcel or project boundaries, and adds each to the SCVURPPP GSI Database.

SCVURPPP developed the GSI Database as a centralized, web-based data management system with a connection to GIS platforms for tracking and mapping all GSI projects in the Santa Clara Basin. The primary goals of the GSI Database include the following:

- Provide a centralized, accessible platform for municipal staff to efficiently collect, upload, and store GSI project data;
- Assist the tracking and mapping of all completed projects in the Santa Clara Basin;
- Enhance SCVURPPP's ability to efficiently and confidently calculate and report water quality benefits associated with GSI projects; and
- Allow the GSI project information to be made publicly available.

The GSI Database implements modern web design standards and web-based mapping technologies. The data are secured with different levels of permissions depending on the user (i.e., SCVURPPP staff, municipal staff, or the public).

The database structure accommodates input, storage, and display of various types of data that comprise all of the information about a given GSI project. These data types include tabular data, spatial data, graphics (i.e., pictures of projects), PDF or Word documents, etc. The information stored in the database includes:

- Project location (to be linked to GIS files for mapping purposes);
- Project type (e.g., private or public, regulated or non-regulated project under the MRP, LID/parcel-based facility, regional facility, or green street);
- Project status (e.g., planned, under-construction, or completed);
- Stormwater treatment types and relevant characteristics (e.g., land area treated, hydraulic sizing criteria used, and other factors important for calculating pollutant reductions); and
- Additional information (e.g., pictures, construction drawings, plan sheets, etc.) as desired by the municipal agency.

This information will be supplemented by:

- GIS data layers (land-use classifications, soil types, impervious area, rainfall data, etc.); and
- Load reduction accounting calculation methods.

Municipalities can enter data for individual projects or upload data for multiple projects in batch using standardized formats developed by SCVURPPP that work with municipalities' existing database formats. Additionally, municipalities can upload other types of data files such as pictures or PDFs into the system.

Outputs of the GSI Database include:

- Raw data or summary data needed for annual reporting or other summary reports;
- Data needed to calculate metrics such as pollutant load reductions, runoff volume reductions, impervious area reduced; and
- Maps displaying project locations and other related attributes such as pollutant generation, watershed boundaries, and water bodies.

SCVURPPP will continue to provide tools to assist municipalities with gathering GSI project information. Existing tools include SCVURPPP's C.3 Data Form, which contains the bulk of the project-specific data inputs needed for all MRP Provision C.3 regulated projects. In the future, SCVURPPP will also develop data forms to assist municipalities in gathering information on green street and parcel-based retrofit projects (including SWRP projects) that are constructed.